

Listing of Claims:

Claims 1-22 (Canceled).

23. (New) A laser scanning microscope comprising:
a light source section which emits a laser beam; and
a scanning optical system which scans the laser beam from
the light source section on a sample;
5 wherein the light source section comprises a first
semiconductor laser diode and a first optical fiber which leads
the laser beam from the semiconductor laser diode to the scanning
optical system; and
wherein the light source section and the scanning optical
10 system are provided in one housing.

24. (New) The laser scanning microscope according to
claim 23, wherein the optical fiber comprises a single mode
optical fiber.

25. (New) The laser scanning microscope according to
claim 23, wherein the optical fiber comprises a polarization
plane preserving type optical fiber.

26. (New) The laser scanning microscope according to claim 23, wherein the light source section further comprises:

a beam shaping section which condenses the laser beam emitted from the semiconductor laser diode and shapes a beam form thereof;

a fiber incident optical system which focuses the laser beam outgoing from the beam shaping section on an incident end surface of the optical fiber; and

a fiber radiation optical system which collimates the laser beam outgoing from the optical fiber.

27. (New) The laser scanning microscope according to claim 23, wherein the light source section further comprises:

at least a second semiconductor laser diode; and

a combining optical system which combines laser beams emitted from the semiconductor laser diodes into one laser beam; and

wherein the laser beam led by the optical fiber is the laser beam combined by the combining optical system.

28. (New) The laser scanning microscope according to claim 27, wherein the combining optical system comprises a polarized beam splitter.

29. (New) The laser scanning microscope according to claim 27, wherein the combining optical system comprises a dichroic mirror.

30. (New) The laser scanning microscope according to claim 27, wherein the light source section further comprises:

a first beam shaping section which condenses the laser beam emitted from the first semiconductor laser diode and shapes a beam form thereof; and

a second beam shaping section which condenses the laser beam emitted from the second semiconductor laser diode and shapes a beam form thereof;

wherein the first beam shaping section includes the combining optical system, and the combining optical system combines the laser beam in the first beam shaping section and the laser beam outgoing from the second beam shaping section.

31. (New) The laser scanning microscope according to claim 27, wherein the semiconductor laser diodes emit visible light band lasers.

32. (New) The laser scanning microscope according to claim 23, wherein the light source section further comprises:

at least a second semiconductor laser diode;

a second optical fiber; and

5 a combining optical system which combines a plurality of
laser beams outgoing from the optical fibers into one laser beam.

33. (New) The laser scanning microscope according to
claim 32, wherein the combining optical system comprises a
polarized beam splitter.

34. (New) The laser scanning microscope according to
claim 32, wherein the combining optical system comprises a
dichroic mirror.

35. (New) The laser scanning microscope according to
claim 32, wherein the light source section further comprises:

a first beam shaping section which condenses a laser beam
emitted from the first semiconductor laser diode and shapes a
5 beam form thereof;

a second beam shaping section which condenses a laser beam
emitted from the second semiconductor laser diode and shapes a
beam form thereof;

10 wherein the first optical fiber leads the laser beam emitted
from the first beam shaping section, and the second optical fiber
leads the laser beam emitted from the second beam shaping
section.

36. (New) The laser scanning microscope according to claim 32, wherein the semiconductor laser diodes emit laser light including at least one of an ultraviolet light, a near infrared light and a visible light.